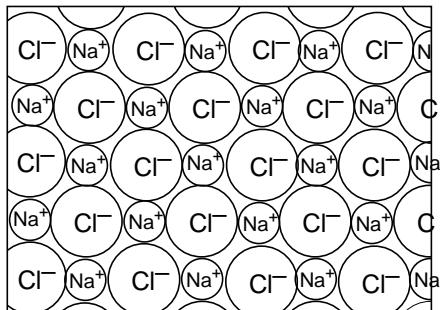


Ionic bonding – true or false?

The statements below refer to the diagram of the structure of sodium chloride. The diagram shows part of a slice through the three dimensional crystal structure.



Please read each statement carefully, and decide whether it is correct or not.

1. A positive ion will be attracted to any negative ion.
2. A sodium ion is only bonded to the chloride ion it donated its electron to.
3. A sodium atom can only form one ionic bond, because it only has one electron in its outer shell to donate.
4. The reason a bond is formed between chloride ions and sodium ions is because an electron has been transferred between them.
5. In the diagram a chloride ion is attracted to one sodium ion by a bond and is attracted to other sodium ions just by forces.
6. In the diagram each molecule of sodium chloride contains one sodium ion and one chloride ion.
7. An ionic bond is the attraction between a positive ion and a negative ion.
8. A positive ion can be bonded to any neighbouring negative ions, if it is close enough.
9. A negative ion can be attracted to any positive ion.
10. It is not possible to point to where the ionic bonds are, unless you know which chloride ions accepted electrons from which sodium ions.
11. A chloride ion is only bonded to the sodium ion it accepted an electron from.
12. A chlorine atom can only form one ionic bond, because it can only accept one more electron into its outer shell.
13. There is a bond between the ions in each molecule, but no bonds between the molecules.
14. A negative ion can only be attracted to one positive ion.
15. The reason a bond is formed between chloride ions and sodium ions is because they have opposite charges.
16. In the diagram a sodium ion is attracted to one chloride ion by a bond and is attracted to other chloride ions just by forces.
17. A positive ion can only be attracted to one negative ion.
18. An ionic bond is when one atom donates an electron to another atom, so that they both have full outer shells.
19. A negative ion can be bonded to any neighbouring positive ions if it is close enough.
20. There are no molecules shown in the diagram.